



OPERATING PERMIT Issued Pursuant to Tennessee Air Quality Act

Date Issued: December 2, 2015

Permit Number:
071038P

Date Expires: July 1, 2025

Issued To:
Tennessee Valley Authority (TVA) – Norton Hill Microwave Station

Installation Address:
Highway 45 South
Jackson

Installation Description:
One (1) new 36-hp diesel-powered emergency generator
engine set

Emission Source Reference No.
57-0404-02
NSPS 40 CFR 60 Subpart III
NESHAP, 40 CFR 60 Subpart ZZZZ

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations.

CONDITIONS:

1. The application that was utilized in the preparation of this permit is dated November 16, 2015, and is signed by Billy R. Hall, Jr., General Manager, Telecom, for the permitted facility. If this person terminates employment or is reassigned different duties and is no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

TAPCR 1200-03-09-.03(8)

(conditions continued on next page)


TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON-TRANSFERABLE

POST AT INSTALLATION ADDRESS

2. The design rated power for this compression ignition engine generator is 36 hp. This source is subject to the requirements of 40 CFR 60 Subpart III and 40 CFR 63 Subpart ZZZZ. Also, the unit is subject to TAPCR 1200-03-09-.03(8).

TAPCR 1200-03-09-.01(1)(d) and construction permit 970681P.

3. Only No. 2 fuel oil and diesel fuel shall be used as fuels for this source.

TAPCR 1200-03-09-.01(1)(d) and construction permit 970681P.

4. Particulate Matter (PM) emitted from this source shall not exceed 0.22 grams per brake horsepower-hour (0.017 lb/hr).

40 CFR §60.4205(b), §60.4202(a)(1)

5. Sulfur Dioxide (SO₂) emitted from this source shall not exceed 0.1 pounds per hour.

TAPCR 1200-03-14-.03(5), AP-42 Table 3.3.1.

6. Carbon Monoxide (CO) emitted from this source shall not exceed 4.1 grams per brake horsepower-hour (0.33 lb/hr). 40 CFR §60.4205(b)

7. Non-Methane Hydrocarbons and Nitrogen Oxides (NMHC + NO_x) emitted from this source shall not exceed 5.6 grams per brake horsepower-hour (0.44 lb/hr). 40 CFR §60.4205(b)

8. Compliance with the emission limits in **Condition 5** is based on compliance with **Conditions 2 and 3** of this permit and AP-42, Chapter 3, Section 3, emission factors.

9. Compliance with the Particulate Matter, Carbon Monoxide, Non-Methane Hydrocarbons and Nitrogen Oxide emission limits are based on compliance with **Condition 2** of this permit and the manufacturer's certification of compliance with 40 CFR §89.112.

10. The emergency diesel engine's allowable annual emissions were calculated using EPA's policy of 500 hours of operation per year.

11. Pursuant to 40 CFR §60.4211(f), the permittee must operate the emergency stationary ICE according to the requirements in paragraphs (1) through (3) of this condition. In order for the engine to be considered an emergency stationary ICE under 40 CFR 60, subpart III, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) of this condition, is prohibited. If the permittee does not operate the engine according to the requirements in paragraphs (1) through (3) of this condition, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraphs (2)(i) through (iii) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (2).

- (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Technical Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (2) of this condition. Except as provided in paragraph (3)(i) of this condition, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
 - (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

40 CFR §60.4211(f)

12. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

13. Pursuant to 40 CFR §60.4207(b), the permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b), as follows:
- (1) Sulfur content shall not exceed 15 parts per million (ppm) maximum for nonroad diesel fuel.
 - (2) Cetane index or aromatic content, as follows:
 - (i) A minimum cetane index of 40; or
 - (ii) A maximum aromatic content of 35 volume percent.

The permittee shall maintain purchase receipts, vendor certifications, material safety data sheets, or other records to demonstrate that all fuel purchased for this source meets the requirements of this condition (any fuel labeled as ultra-low sulfur non-highway diesel fuel or ultra-low sulfur highway diesel fuel meets these requirements). These records shall be made available to the Technical Secretary for inspection upon request. These records must be maintained for a period of at least (2) years from the purchase date. As an alternative to maintaining records, the permittee may instead ensure that the engine's fuel inlet/fill cap indicates that ultra-low sulfur diesel (ULSD) fuel is required for this engine.

14. The permittee shall operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer. 40 CFR §60.4211(a)
15. The permittee shall comply with the PM, CO, and (NMHC + NO_x) emission limitations by purchasing an engine certified to the emission standards in 40 CFR §60.4205(b) for the same model year and maximum engine power. The permittee shall maintain a record of this certification at the source location. The engine shall be installed and configured according to the manufacturer's specifications. 40 CFR §60.4211(c)
16. The source is subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ). Pursuant to 40 CFR §63.6590(c), this affected source (which is a new stationary RICE located at an area source of HAP emissions) shall meet the requirements of 40 CFR Part 63 by meeting the requirements of 40 CFR Part 60, Subpart IIII. No further requirements apply for these engines under 40 CFR Part 63.
17. The permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for the following categories: (a) emergency operation, as specified in **Condition 11**, Paragraph (1), including what classified the operation as emergency; (b) maintenance checks and readiness testing, demand response, as specified in **Condition 11**, Paragraph (2); and (c) non-emergency operation, as specified in **Condition 11**, Paragraph (3). The permittee shall calculate the operating hours per calendar year. The permittee shall maintain the following log format or an alternative format which readily provides the same required information. All data, including all required calculations, must be entered in the log no later than thirty (30) days from the end of the year for which the data is required. This log shall be retained for a period of not less than two (2) years and shall be made available for inspection by the Technical Secretary or his representative upon request.

Logs for emergency stationary ICE

Month, Year	Emergency Operation (hr/mon)	Maintenance Checks and Readiness Testing (hr/mon)	Non-Emergency Operation (hr/mon)
	Column A	Column B	Column C
January			
February			
Etc.			
December			

Month, Year	Add Columns B+C	Add Column C
Limit	100 hours	50 Hours
January		
February		
Etc.		
December		

18. This source shall comply with all applicable state and federal air pollution regulations. This includes, but is not limited to, federal regulations published under 40 CFR 63 for sources of hazardous air pollutants and 40 CFR 60, New Source Performance Standards. TAPCR 1200-03-09-.01(1)(d) and construction permit 970681P.
19. This source shall operate in accordance with the terms of this permit and the information submitted in the approved permit application. TAPCR 1200-03-09-.03(8)
20. This permit is valid only at this location. TAPCR 1200-03-09-.03(6)
21. The permittee shall apply for renewal of this permit not less than sixty (60) days prior to the permit's expiration date pursuant to Division Rule 1200-03-09-.02(3).

(end of conditions)

The permit application gives the location of this source as Latitude: 35.531 and Longitude: -88.777